8/15/2018

1/1



# PACKING SLIP/ CERTIFICATE OF CONFORMANCE

A. M. Castle & Co.

Page 1 of 1

Shipment No:3672863

Ship From:		Sold To:	Ship To:	Deliver To:
A. M. CASTLE & CO. 2150 ARGENTIA ROAD	& CO. IA ROAD	DART AEROSPACE LTD 1270 ABERDEEN	DART AEROSPACE LTD 1270 ABERDEEN	DART AEROSPACE LTD 1270 ABERDEEN
MISSISSAUGA, ON L5N 2K7 CAN	Y ON L5N	HAWKESBURY, ON K6A 1K7 CA	K6A 1K7 CAN	HAWKESBURY, ON K6A 1K7 CA
Date Shipped	F.O.B.	Freight Terms	Carrier	BOL No
13-AUG-18	ORIGIN	Prepaid	MANITOULIN	3672863-2
Shipment Details	ails		Final Destination Branch - TOR	-TOR
Order No	Line No	Item No	Description	
5214452	-	750023.MO	0.2500.PL.7075.T651.ALI CUT 2SIDED TO 6 IN ( + IN) - ALUMINUM PLATE	0.2500.PL.7075.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 6 IN ( + .1250/0000 IN) X 144.5 IN ( + .1250/0000 IN) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12
Purchase Order No	er No	Part Number	Ordered Qty	Invoice Qty
40612			7.00 PCS	7.00 PCS
Details	ALL PAF ALL MA	ALL PAPERWORK MUST FOLLOW OF ALL MATERIAL MUST HAVE IDENTIFY	IST FOLLOW ORDER / CUSTOMER MUST REC HAVE IDENTIFYING MARKINGS EX:HEAT #'S	EIVE AT T
	Email P/ END US END US	Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS	ro.com PARTS	
Delivery No.	Mill/Source	Heat Number	d PCS	Width (IN) Length (IN) Shipped Qty(LBS)
122018109	KAISER ALUMINUM	24 6 9 2 8 3 1	7	159.9850

We hereby certify the material, including any specifications froming a partial and has been found to meet the applicable requirements for the material, including any specifications forming a partial the description.

To credit for credit is subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customers are the customers of the cust AUG 1 3 2018 Date: Name: 1 KALOUS



# PACKING SLIP/ CERTIFICATE OF CONFORMANCE

A. M. Castle & Co.

Page 1 of 1

# Shipment No:3672863

Ship From:		Sold To:	Ship To:	Deliver To:	
A. M. CASTLE & CO		ART AEROSPACE LTD	DART AEROSPACE LTD	DART AEROSPACE LTD	
2150 ARGENTIA ROAD		1270 ABERDEEN	1270 ABERDEEN	1270 ABERDEEN	
MISSISSAUGA, ON		HAWKESBURY, ON K6A 1K7	HAWKESBURY, ON	HAWKESBURY ON	
2K7		A	K6A 1K7 CAN	K6A 1K7	
CAN				CA	
Date Shipped	F.O.B.	Freight Terms	Carrier	BOL No	
13-AUG-18	ORIGIN	Prepaid	MANITOULIN	3672863-2	

Final Destination Branch - TOR

Shipment Details

Order No	Line No	Item No	Description	tion			
5214452	2	752188.MO	1.0000.1 CUT 2S	PL.7075.T651 IDED TO 6 IN	ALUMINUM.L (+.1250/00	1.0000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 6 IN ( + .1250/0000 IN) X 144.5 IN ( + .1000) A LIMINI M PI ATE SAM SPECIFICATIONS: AMS	1.0000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 6 IN ( + .1250/0000 IN) X 144.5 IN ( + .1250/0000 IN) - ALIMINI M PLATE SAW SPECIFICATIONS: AMS OD A 250/42
Purchase Order No		Part Number	Ordered Qtv	d Qtv	10 440 714	Invoice Otv	1. AIVIG-QQ-A-230/ 12
40612			5.00 PCS	Ş		5.00 PCS	
Details	ALL PAPI ALL MATI	ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S	N ORDER / CU	STOMER MU: KINGS EX:HE	ST RECEIVE	AT TIME OF D	ELIVERY
	Email P/s END USE	Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE	artaero.com				
	END USE	END USE: COMMERCIAL AIRCRAFT PARTS	<b>AFT PARTS</b>				
Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Width (IN) Length (IN) Shipped Qtv(LBS)
122018109	CONSTELLIUM ROLLED PRODUCTS	9413631		2			451.4090

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications and a part of the description.

Test reports are on file subject to examination. All claims for defective material are waived unless made in white properties and the description of the description.

For credit.

Reviewed by Authorized Castle Metals Representative: Name: Date:



# PACKING SLIP/ CERTIFICATE OF CONFORMANCE

Page 1 of 1

# Shipment No:3672863

Ship From:	Sold To:	To:	Ship To:	Deliver To:	
A. M. CASTLE & CO.		DART AEROSPACE LTD	DART AEROSPACE LTD	DART AEROSPACE LTD	
2150 ARGENTIA ROA		1270 ABERDEEN	1270 ABERDEEN	1270 ABERDEEN	
MISSISSAUGA, ON L5N	_	HAWKESBURY, ON K6A 1K7	HAWKESBURY, ON	HAWKESBURY, ON	
2K7	CA		K6A 1K7 CAN	K6A 1K7	
CAN				CA	
Date Shipped	F.O.B.	Freight Terms	Carrier	BOL No	
	ORIGIN	Prepaid	MANITOULIN	3672863-2	

Final Destination Branch - TOR

Shipment Details

Order No	Line No	Item No	Description			
5214452	60	750412.MO	1.5000.PL.7075.Te	1.5000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 1.5 IN ( + .1250/0000 IN) X 144.5 IN ( + .1250/-	SI.48.5000.14	4.5 IN ( + .1250/-
			.0000 IN) - ALUMII AMS-QQ-A-250/12	0000 IN) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	V SPECIFICA	TIONS:
Purchase Order No		Part Number	Ordered Qty		Invoice Qty	lty.
40612			7.00 PCS		7.00 PCS	
Details	ALL PAPE	ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY	RDER / CUSTOMER	<b>AUST RECEIVE A</b>	T TIME OF D	ELIVERY
	ALL MATE	ALL MATERIAL MUST HAVE IDENTIF	I HAVE IDENTIFYING MARKINGS EX:HEAT #'S	:HEAT #'S		
	Email P/s a	Email P/s and certs to: clavoie@dartaero.com	ero.com			
	END USEF	END USER: DART AEROSPACE				
	END USE:	END USE: COMMERCIAL AIRCRAFT PARTS	PARTS			
Delivery No.	Mill/Source	Heat Number	Mech Id PCS	Width (IN)	Length (IN)	Width (IN) Length (IN) Shipped Qty(LBS)
122018109	CONSTELLIUM ROLLED		7			234.6141
	PRODUCTS	9 4 1 0 0 9 7				

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirement whereast to examination. All claims for defective material are waived unless made in the state of the spirith end of the spirith e Name: Date:

	OF LADING -SHO						Ship	per No.:	3672863-2			
The property despackages unknounderstood throucontract) agrees another carrier o over all or any property, that even Domestic Straigh	cribed below, in ap wn), marked, consig- ughout this contract to carry to its usual or the route to said co- portion of said route the ery service to be per the Bill of Lading set	parent good ore gned, and destinas meaning an place of delive lestination. It is to destination, a formed hereun forth (1) in Unife	der, except as indicate y person or corry at said destination mutually agreed and as to each pader shall be support.	e date of issue of this E noted (contents and or do below, which said or proration in possessior nation, if on it's route, ed, as to each carrier party at any time intersubject to all the terms a position of the terms a position in effect on	endition of contentrier (the word of the property otherwise to delipot all or any said ested in all or an and conditions of the date hereof,	carrier being under the ver to I property y of said I the Uniform , if this is a		M AT:	A. M. Castie & 2150 ARGEN MISSISSAUG ON L5N 2K7 (	TIA ROAD A		
				ssification or tariff this	is a motor carrie	er shipment.		nent Terms:	10000			
Consigned DART AERO 1270 ABERI HAWKESBU K6A 1K7 CA	OSPACE LTD DEEN JRY ON	AL PA	ACKING LIS	MUST BE TARP ST AND TEST R WILL REFUSE.	EPORTS OF		REM RayT PO E	aid				
Car	rier Name:				-	Additional	Insura	nce Coverag	ie:			
	NITOULIN		The agree	ed or declare val						er to be no	ot exceed	ing:
Shipment	Breakdown:							Shipment W	leights:			
Quantity	Packaging	Packagir	g Dim's	Class	Com	nmodity		Product	846 LBS			
	5141515	LXV	/ X H			10 1		Dunnage	50 LBS			
1	BUNDLE	145 X 1	2 X 12	50 50		Product Product	-	Gross	896 LBS			
					ORDER D	ETAIL:						
	Customer PO			s Order No.	Line No			ie Item No.	Quantity	Shipped	Castle	
	40612			5214452	2			4452*2*1		5	PC	
	40612			5214452	3			4452*3*1			PC	
C. bissite Cont	40612	-/		this shipment is to be	1	I If the object		4452*1*1	orts by a carrier by wal	7	PC	
the consignee The carrier sha charges.	without recourse to all not make delivery	the consignor, of this shipmer	the consignor s nt without payn	shall sign the following nent of freight and all c	statements. other lawful	lading shall dependent declared va	state whon value, lue of the	ether it is "carrier the shippers are property.	's or shipper's weight.' required to state speci	" NOTE: Whe ifically in writing	re the rate is	dor
				CURRENT FORM B		not exceed		red value of the pi	operty is nereby spec	mcany stateo	by the snippe	er to be
DESCRIBED. I	PACKAGED, MARK	ED AND LABE	LED, AND AR	ARE PROPERLY CLA: E IN PROPER CONDI ULATIONS OF THE D	TION FOR	Customer is Canadian la	s respons sws, inclu	sible for all shippin Iding but not limite	g documents and comed to U.S. and Canadia	npliance with L an Export laws	Jnited States and regulat	and ions.
								5	Shipper No.: 36	672863-2	1	
SHIPPER,	PER:					Per				08	1/13	118.
		insert	creator's n	ame						Di	ate	1 10
22222	- DEL 11/EDV					N	Dr	iver's Signatu	re A.i.H			
PROOF OF	DELIVERY:	Signat	ure / Date			Name	Ple	ease Print Na	me Here			
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									1 6	077	000	

MANITOULIN TRANSPORT 1-800-265-1485



# **PURCHASE ORDER** PO040612

Tel (613) 632-5200

Supplier: MEC002-VU

**Metaux Castle** 

P.O. Box 4090 Stn A

Toronto ON

M5W OE9 Canada

1270 Aberdeen Street

Hawkesbury

Ship To:

K6A 1K7 Canada Phone: 613-632-5200

ON

**Revision Date:** 

PO No:

PO Date:

Due Date:

Revision:

Ship-To Contact:

**Purchase Order** 

Via: Pymt Terms:

Net 30

Freight Terms:

Special Comme

PO040612

7/26/18

8/22/18

Lavole, ChantalPhone: clavoie@dartaero.com

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	, E		-	S. S		Comment	s:	-	·			
Line Item	Job	Part .	Supplier Part No	and the second second second second second second second		Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extende Price
DAS 61 9-89		M7075T6S6.000X0.250		7075-T6S Sheet 6" Thick Plate X 0.25" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	•	8/22/18	80 ft	84.29	80 ft	\$14.35/R Al 18/02	
DAS 61 9-89		M7075T6S6.000X1.000		7075-T6S Sheet 6" Thick Plate X 1" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	8/22/18	60 ft	0 ft 60-25t	60 ft	\$43.42/ft AT 18/08,	
DAS 61 9-89		M7075T6S1.500X1.500		7075-T6S Sheet 1.5" Thick Plate X 1.5" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	8/22/18	80 ft	on grand	80 ft	\$20.50/R D/ 18/a	
4		M7075T6S1.750X2.250		7075-T6 Sheet 1.750" X 2.250" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed		8/22/18	43.75 ft	0 ft	44 ft	\$40.86/ft	\$1,787.0
e Item Note	20 p	48.25" long									.4	
5		M7075T6S1.250X2.750		M7075T6S1.250" X2.750" Cut From Plate : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM	Firmed	-	8/22/18	12 ft	· Oft	12 ft	\$31.20/ft	\$374.4



# PURCHASE ORDER PO040612

Tel (613) 632-5200

Line			Supplier				Due	Order	Received		Unit	Extende
Item	Job	Part	Part No	Description B209	Status	Account		Quantity			Price (USD)	Price
				receive ft								
6	and the state of the laboratory and the state of the stat	M7075T6S0.375X3,000		7075 T6 Sheet 0.375" X 3.000" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209	Firmed	-	8/22/18	60 ft	Oft	60 ft	\$11.86/ft	\$711
7		M7075T6S0.750X4.000		7075 T6 Sheet 0.750" X 4.000" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209	Firmed	-	8/22/18	40 ft	Oft	40 ft	\$28.58/ft	\$1,143.
8		M7075T6S1.000X1.250		7075 T6 Sheet 1.000X1.250 : MATERIAL: 7075-T6 OR T651/T6510/T6511/T62 ALUMINUM BAR AS PER AMS-QQ-A-225/9 OR AMS 4122/4123/4186/4187 OR PER AMS-QQ-A-200/11 receive ft	Firmed	-	8/22/18	12 ft	Oπ	12 ft	\$17.15/ft	\$205.
9		M7075T73B1.250X02.000		7075-T73 Bar 1.250" X 2.000" Cut in Billet 30" Long : MATERIAL: 7075-T73 OR 7075- T7351/T73510/T73511 BAR PER AMS-QQ-A- 200/11 OR AMS-QQ-A- 225/9 OR AMS 4124 OR AMS-QQ-A-250/12 OR AMS 4078 receive ft	Firmed		8/22/18	25 ft	0 ft	25 ft	\$26.10/ft	\$652.
e Item Note	10 pc	s cut at 30" long										
10		M7075T73R1.000		7075-T73 Round Bar 1.00 : MATERIAL: 7075-T73 OR 7075- T7351/T73510/T73511 ROUND BAR AS PER AMS-QQ-A-200/11 OR AMS-QQ-A-225/9 receive fi	Firmed		8/13/18	12 ft	12 <b>A</b>	12 ft	\$11.47/R 6 0 8 <b>2018</b>	\$137.6
DAS 61 9-85		M303B1.500X4.000		303 Bar 1.500" X 4.000" : MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: AISI 304/316 NOT ACCEPTABLE	Firmed	-	8/22/18	6 ft	Oft GG#	AÜĞ 1	\$238.50/ <del>R</del>	\$1,431.0
12		M303B1.000X1.000	-	M303B1.000 X 1.000 : MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: AISI 304/316 NOT	Firmed	-	8/13/18	12 1	(1 ft	12 ft	\$18.72/R AUG 0 8 2	\$224.0



# PURCHASE ORDER PO040612

Tel (613) 632-5200

Line		and the second of the second o	Supplier	lens I			Des	Owles	Deer's a	Carlot Au		
Item	Job	Part	Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extende Price
				ACCEPTABLE receive ft								
13		M2024T3S.090		2024-T3 .090 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	-	8/22/18	144 sf	0 sf	144 sf	\$8.16/sf	\$1,175.
PAS 61 9-89		M4130NR0.375		4130 Steel Round Bar ,375" : MATERIAL: AISI 4130N ROUND BAR AS PER MIL-S-6758 OR AMS 6348/6370/6528 receive ft	Firmed	-	8/13/18	60 ft	૦૧ કિંગ્યાના		\$2.37/A	
DAS 61 9-89		M2024T3S.063		2024-T3 .063 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	•	8/22/18	96 sf	0 st 965+	96 sf	\$6.51/sf	\$624.9 <b>018</b>
16 DAS 61 9-84		M2024T3S.080		2024-T3 .080 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	-	8/22/18	96 sf	0 st	96 sf	\$6.86/sf 6 1 3 2018	\$658.
17 ÅT		M304R1.250		304 Round Bar 1.250 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	09	8/3/18	12 ft	ofi ILFt	12 ft	\$10.42/ft   <b>\$</b> /08/0	\$125.0 7
DAS 61 9-89		M304R1.500		304 Round Bar 1.500 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed		8/3/18	12 ft	0 ft 12.544	12 ft	\$13.81/ft AUG 0 9 20	\$165.7
19		M6061T6B2.000X08.000		6061-T6 Bar 2.00' X 8.00" ( Cut In 4Ft Section) : MATERIAL: 6061- T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ- A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ- A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	8/14/18	8 ft	0 ft	8 ft	\$56.83/ft	\$454.6
Item Note	cut in	section of 4 ft		:					,		,	
MAS 61		M303R1.250		303 Round Bar 1.250 : MATERIAL: AISI 303 SS	Firmed	-	8/3/18	12 ft	11.115gf	12 ft	\$11.80/R	



## **PURCHASE ORDER** PO040612

Tel (613) 632-5200

Line item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Received Quantity	Unit Price (USD)	Extende Price
				ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft						

Grand Total: \$15,549.37

**Procurement Quality Clauses** 

A005 right of entry A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit <a href="https://www.dartaerospace.com">www.dartaerospace.com</a> for further explanation.

Plex 8/3/18 11:09 AM dart.baker.diane

SHIP TO:

A M CASTLE & CO 3050 SOUTH HYDRAULIC WICHITA, KS 67216

SOLD TO:

AM CASTLE & CO- SOLD TO 1420 KENSINGTON RD SUITE 220 OAK BROOK, IL 60523



**Trentwood Works** 

PO Box 15108, Spokane Valley WA 99215-5108 15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

### CERTIFIED TEST REPORT

Serial Number 4508307

456581-1	ER:	WOF	RK PACKAGE:	STOMER PA	RT NUMBER:			RUN/LOAD: GOV'T C	ONTRACT NUMBER:	
1253097-1			SHIP DATE: 30-APR-201	7075	CLAD: BARE	TEMPER T651	)	PRODUCT DESCRIPTI	ON:	
WEIGHT SHIPPED: 3381 LB	19 PC		TRUCI ST. 2073	 	GAUGE: 0.2500 I	N 6.3500 M		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)	LENGTH: 144.500 IN	

MHU 2203694: LOT 241692B3: 19 pieces;

**Certified Specifications** 

AMS 4045/RevL CMMP 025/RevV AMS-QQ-A-250/12/RevA

ASTM B 209/Rev 14

Test Code: 1512

Lot: 241692B3

**Cast 611** 

Drop 09

**Test Results** 

Ingot 3

Melted in USA

OTHER

0.04

TOT

(ASTM E8/B557)

(EN 2002-1)

Tensile: Temper

T651

Dir / # Tests LT / 2 (Min:Max) Ultimate KSI (MPA) 85.8:86.4

(592:596)

MG

2.5

Yield KSI (MPA) 75.4:76.4 (520:527)

Elongation %

11.8:12.6

(ASTM E1251)

Chemistry: Actual(wt%)

SI FE 0.08 0.18

CU MN 1.5 0.06

CR 0.19

ZN

5.6

0.01

TI

0.03

ZR

0.02

**ALLOY LIMITS** 

SI FE . CU MN MG CR ZN TI ZR OTHER MAX 7075 MIN(wt%) 0.00 0.00 1.2 0.00 2.1 0.18 0.00 5.1 0.00 0.00 **EACH** 0.05 MAX(wt%) 0.40 0.50 2.0 0.30 2.9 0.28 6.1 0.20 0.05 0.05 TOT 0.15

Aluminum Remainder

ORDER COMMENTS

AMC CA-15409 R 3





### CERTIFIED TEST REPORT

Serial Number 4508307

**Trentwood Works** PO Box 15108, Spokane Valley WA 99215-5108 15000 E Euclid, Spokane Valley WA 99216 Phone: (800) 367-2586

### CERTIFICATION

\* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.

All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements apported elongation at fracture.

\* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.

\* has been thermally processed in compliance with AMS 2772, where applicable.

\* is is mercury free, within the limits of detection of ASTM E1215 (<1 jpm).

\* is in compliance with ROHS 2, European Union Directive 2011/85/EU.

\* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.

\* is free of weld repair.

\* meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Keiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, flictitious or fraudulent statements or antries on the certificate may be punished as a felony under federal law.



۵ CP HAWKESBURY, ONTARIO, CANADA
ML DRAWING NO.
LL M7075T6S SHEET 1 OF 1
DS-T 7075-T6 SHEET/PLATE SPEC NIS 17 05.05 10.11.08 DATE COPYRIGHT D 2010 BY DART AEROSPACE LTO B OPTIONAL WIDTH DIM (CAR16 149) 
 APPROVED
 WM

 DE APPR.
 D9 

 DATE
 17.05.05
 NEW ISSUE DRAWN CHECKED MFG. APPR. DESIGN REV. **APPROVED** SPECIFICATION CONTROL DRAWING MELEASED 2017 JUN 19 47 ECM 17-574 WHERE ".TIT" = THICKNESS (IN INCHES) AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE) EG. 0.063" THICK SHEET = M707516S 083 EG. 3.5" WIDE BY 0.500" THICK PLATE = M707516S.500X3.500 PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE (B) PURCHASE MATERIAL (7075) FOT 62/165/JALUMINUM SHEET OR PLATE QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 QQ.A-250/13 OR AMS-QQ-A-250/13 OR AMS-4048 / 4049 OR ASTM 8209 TIT BY 4FT BY 10FT FOR SHEET M707516S TTT X W WWW THK WIDTH A PREFERRED SIZE: SPECIFICATION: SPECIFICATION: B PART NUMBER: OR (B) (8) 8 U

### MATERIAL RECEIPT INSPECTION FORM

	M70757656.000 x 0.250	PO/BATCH NO .: 00 40612/5/0237
MATERIAL CERT REC'D: QUANTITY RECEIVED: QUANTITY INSPECTED: QUANTITY REJECTED:	84.29 ft	THICKNESS ORDERED: 0. )55"  THICKNESS RECEIVED: 0.250"  SHEET SIZE ORDERED: 6"x (2.0 Ft)  SHEET SIZE RECEIVED: 6"x (2.5 ft)

	N10	20			
DESCRIPTION	NCR (Check Y/N)		COMMENTS		
SURFACE DAMAGE	Υ	(N)			
CORRECT FINISH	(Y)	N			
CORROSION	Y	W			
CORRECT GRAIN DIRECTION	(X)	N			
CORRECT MATERIAL PER M-DRAWING	(Y)	N	ASIM B 209		
CORRECT THICKNESS	(Y)	N			
PHOTO REQUIRED	Y	(N)			
CORRECT REF # TO LINK CERT	(Y)	N	M1: 241612B3		
CORRECT MATERIAL IDENTFICATION	Y	N			
CORRECT M# ON THE MATERIAL	Y	Ν			
DOES THIS MATERIAL REQUIRE	0				
ENGINEERING SIGN OFF	Υ	N			
DOES THIS REQUIRE AN EXTRUSION REPORT	Υ	3			

CUT SAMPLE PIECE OF	MATERIAL A			SS CHECK.			
	HRC	HRB	DURA	DUR D	WEBSTER		
TYPE OF MATERIAL	TINO	TIND	DOKA	שאטע	WEBSIER		
SIZE OF TEST SAMPLE							
HARDNESS / DUROMETER READING							

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY:	SIGNED OFF BY:
DATE: 18/08/15	DATE:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in







A M CASTLE CO S Н 3050 SO HYDRAULIC WICHITA KS P 67216 US

s 0 D T

A M CASTLE 1420 KENSINGTON ROAD, SUITE 220

OAK BROOK IL

60523 US

0 0 A M CASTLE 110642463 4075 INCLUSION Serial:20180330-0110642463 Pa 1of6

CUSTOMER PURCHASE ORDER NO. & ITEM 453754

Constellium ORDER NO. 232826

ALLOY CLAD TEMPER GAUGE WIDTH LENGTH 7075 T651 1.00000 in 48.50000 in 144,50000 in 25.40 mm 3,670 mm 1.232 mm

ITEM ORDERED SPEC PLATE, SAWED MILL FINISH

CUSTOMER SPECIFICATION AMS 4045K

PART NUMBER 752188

B/L NUMBER 97341

DATE SHIPPED 03/31/2018

WT. SHIPPED 6420.000 LB

NO. OF PIECES 000009

GOVT. CONTRACT NO.

CERTIFICATION

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road

P.O. BOX 68 RAVENSWOOD, WV 26164 USA

Dave Dunbarger - Laboratory Manager

ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:

ASTM B594 REV 13 2013 100% SONIC W/ 0.12" DEADZONE Class A AMS QQ-A-250/12A

AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE ASTM B209-14

BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE CSTI006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

### **Load Details**

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001741754	710.000	322.050	9413629	01		
1001741754	710.000	322.050	9413629	02		
1001741754	710.000	322.050	9413629	03		
1001741758	705.000	319.782	9413631	01		
1001741758	705.000	319.782	9413631	02		
1001747251	720.000	326.586	9413633	03		
1001747252	720.000	326.586	9413634	01		
1001747252	720.000	326.586	9413634	02		
1001747252	720.000	326.586	9413634	03		

Lot: 9413629 (See test results below)







S A M CASTLE CO
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A M CASTLE

1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

Serial:20180330-0110642463 A M CASTLE 110642463 4075 INCLUSION Pg 2of6 **CUSTOMER PURCHASE ORDER NO. & ITEM** Constellium ORDER NO. CERTIFICATION 453754 "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the LENGTH ALLOY CLAD TEMPER GAUGE WIDTH requirements of the applicable specifications as T651 1.00000 in 48.50000 in 144.50000 in 7075 indicated herein. Any warranty is limited to that 3,670 mm 1.232 mm 25.40 mm shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test ITEM ORDERED reports are on file, subject to examination." SPEC PLATE, SAWED Constellium Rolled Products Ravenswood, LLC MILL FINISH 859 Century Road CUSTOMER SPECIFICATION P.O. BOX 68 RAVENSWOOD, WV 26164 USA AMS 4045K DATE SHIPPED PART NUMBER B/L NUMBER 752188 97341 03/31/2018 NO. OF PIECES WT. SHIPPED GOVT, CONTRACT NO. 6420,000 LB Dave Dunbarger - Laboratory Manager

Tensile - Room Temperature (US)

Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report			
Direction	Tests	Min	Max	Min	Max	Min	Max		
LT	02	83.7	84.3	74.6	75.0	13.0	14.0		

Tensile - Room Temperature (SI)

Ultimate (N/MM2)		Yield (N	I/MM2)	Elongation	on (%)	Report		
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	577	581	514	517	13.0	14.0	

Chemistry (Actual)

Core

SI FE CU MN MG CR ZN TI ZR 0.09 0.18 1.41 0.04 2.61 0.20 5.66 0.04 0.01

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

Lot: 9413631 (See test results below)







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1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

A M CASTLE 110642463 INCLUSION Serial: 20180330-0110642463 4075 Pq 3of6 CUSTOMER PURCHASE ORDER NO. & ITEM Constellium ORDER NO. CERTIFICATION 232826 453754 "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the ALLOY CLAD TEMPER GAUGE WIDTH LENGTH requirements of the applicable specifications as 7075 T651 1.00000 in 48.50000 in 144.50000 in indicated herein. Any warranty is limited to that 3,670 mm 25.40 mm 1.232 mm shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test ITEM ORDERED reports are on file, subject to examination." SPEC PLATE, SAWED Constellium Rolled Products Ravenswood, LLC MILL FINISH 859 Century Road CUSTOMER SPECIFICATION P.O. BOX 68 RAVENSWOOD, WV 26164 USA AMS 4045K PART NUMBER B/L NUMBER DATE SHIPPED 752188 97341 03/31/2018 WT. SHIPPED NO. OF PIECES GOVT. CONTRACT NO. 6420.000 LB 000009 Dave Dunbarger - Laboratory Manager

rensile - Room	Temperature	(US)
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	Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report	
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	82.6	83.0	73.3	73.9	12.5	13.0	

Tensile - Room Temperature (SI)

	Ultimate (N/MM2)		Yield (N	Yield (N/MM2)		on (%)	Report		
Direction	Tests	Min	Max	Min	Max	Min	Max		
LT	02	570	572	505	510	12.5	13.0		

Chemistry (Actual)

SI FE CU MN MG CR ZN TI ZR Core 0.09 0.18 1.41 0.04 2.61 0.20 5.66 0.04 0.01

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

Lot: 9413633 (See test results below)







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A M CASTLE

1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

0 A M CASTLE 110642463 4075 INCLUSION Serial:20180330-0110642463 Pa 4of6 CUSTOMER PURCHASE ORDER NO. & ITEM Constellium ORDER NO. CERTIFICATION 232826 "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the ALLOY CLAD TEMPER GAUGE WIDTH LENGTH requirements of the applicable specifications as 7075 T651 1.00000 in 48.50000 in 144,50000 in indicated herein. Any warranty is limited to that 3,670 mm 25.40 mm 1,232 mm shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test ITEM ORDERED reports are on file, subject to examination." SPEC PLATE, SAWED Constellium Rolled Products Ravenswood, LLC MILL FINISH 859 Century Road CUSTOMER SPECIFICATION P.O. BOX 68 RAVENSWOOD, WV 26164 USA AMS 4045K PART NUMBER B/L NUMBER DATE SHIPPED 752188 97341 03/31/2018 WT. SHIPPED NO. OF PIECES GOVT. CONTRACT NO. 6420,000 LB 000009 Dave Dunbarger - Laboratory Manager

Tensile - Room Temperature (US)

Ultimate (KSI)		Yield (K	Yield (KSI)		on (%)	Report		
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	82.8	83.0	73.4	73.7	13.5	14.0	

Tensile - Room Temperature (SI)

		Ultimate	(N/MM2)	Yield (N/MM2)		Elongation	on (%)	Report	
Direction	Tests	Min	Max	Min	Max	Min	Max		
LT	02	571	572	506	508	13.5	14.0		

Chemistry (Actual)

SI FE CU MN MG CR ZN TI ZR Core 0.05 0.11 1.41 0.05 2.57 0.20 5.55 0.04 0.00

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

Lot: 9413634 (See test results below)







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A M CASTLE

1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

INCLUSION Serial:20180330-0110642463 A M CASTLE 110642463 4075 Pa 5of6 Constellium ORDER NO. CUSTOMER PURCHASE ORDER NO. & ITEM CERTIFICATION 453754 232826 "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the ALLOY CLAD TEMPER GAUGE WIDTH LENGTH requirements of the applicable specifications as 1.00000 in 48.50000 in 144.50000 in T651 7075 indicated herein. Any warranty is limited to that 25.40 mm 1.232 mm 3.670 mm shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test ITEM ORDERED reports are on file, subject to examination." SPEC PLATE, SAWED Constellium Rolled Products Ravenswood, LLC MILL FINISH 859 Century Road P.O. BOX 68 CUSTOMER SPECIFICATION RAVENSWOOD, WV 26164 USA AMS 4045K DATE SHIPPED PART NUMBER B/L NUMBER 752188 97341 03/31/2018 NO. OF PIECES WT. SHIPPED GOVT, CONTRACT NO. 6420,000 LB 000009 Dave Dunbarger - Laboratory Manager

Tensile - Room Temperature (US)

	Ultimate (KSI)		Yield (K	Yield (KSI)		(%)	Report	
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	82.4	83.1	72.7	73.8	13.0	14.0	

Tensile - Room Temperature (SI)

		Ultimate	(N/MM2)	Yield (N	1/MM2)	Elongation	on (%)	Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	568	573	501	509	13.0	14.0	

Chemistry (Actual)

CU SI FE MN MG CR ZN TI ZR 0.05 0.11 1.41 0.05 2.57 0.20 5.55 0.04 0.00

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

QUALITY TEXTS: AMC CA-15403 R 8







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1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

CUSTON 453754	ER PURC	CHASE ORI	DER NO. & ITEM	А	Conste 232826	ellium ORDER NO.	"Constellium Rolled Products, hereby certifies that metal shipped under this order has been
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.00000 in 25.40 mm	WIDTH 48.500 1,232	00 in	LENGTH 144.50000 in 3,670 mm	inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard
MILL FIN	ATE, SAV ISH IER SPEC	VED					General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA
PART NU 752188	JMBER		<b>B/L NUM</b> 97341	BER		E SHIPPED 1/2018	Mane Umbergar
WT. SHIF 6420.000			O. OF PIECES	GOVT.	CONTR	ACT NO.	Dave Dunbarger - Laboratory Manager

THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CHEMISTRY BY OES: ARKSPARK
CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT
WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399
WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557

DUNS Number: 090570149; CAGE Code: 1YWL9

Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.

"END OF CERTIFICATION"

R LL M7075T6S

RD WM Title

AR. DS WM TI 17 05 05 10.11 08 DATE CP ADD. REF TO "PLATE." T851" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-149) DESCRIPTION 
 MFG.APPR.
 LL

 APPROVED
 WM

 DE APPR.
 DS

 DATE
 17.05.05
 NEW ISSUE DRAWN DESIGN REV. **APPROVED** SPECIFICATION CONTROL DRAWING MELEASED 2017 JUN 19 47 ECN 17-579 WHERE "TIT" = THICKNESS (IN INCHES) AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE) EG. 0.083" THICK SHEET = M.737518S 063 EG. 3.5" WIDE BY 0.500" THICK PLATE = M.707516S.500X3.500 B PURCHASE MATERIAL: 7075-76/762/7651 ALCLAD ALUMINUM SHEET OR PLATE B PURCHASE MATERIAL 7075 T676 2 T651 ALUMINUM SHEET OR PLATE QQ-8-250/12 OR AMS-OQ-A-250/12 OR(AMS 40/45) OR ASTM 62/09 QQ-A-250/13 OR AMS-QQ-A-250/13 OR AMS 4048 / 4049 OR ASTM B209 TITT BY 4FT BY 10FT FOR SHEET M707516S TTT X W.WWW THK WIDTH B TREFERRED SIZE: SPECIFICATION: SPECIFICATION: B PART NUMBER: **(e)** (9) Ω O

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7079  DATE: 18/08/1	576	.56.3	00 × 1-00		PO / BATCH	NO.: 800	10612/5/02			
MATERIAL CERT REC'D: 45  GUANTITY RECEIVED: 60.2'  QUANTITY INSPECTED: 60.2'  QUANTITY REJECTED:				THICKNESS ORDERED:  THICKNESS RECEIVED:  SHEET SIZE ORDERED:  SHEET SIZE RECEIVED:						
DESCRIPTION	(Ct	CR neck (N)			COMMEN	TS				
SURFACE DAMAGE	Υ	(N)		-						
CORRECT FINISH	(Y)	Ň								
CORROSION	Y	(17)								
CORRECT GRAIN DIRECTION	Y	Ň								
CORRECT MATERIAL PER M-DRAWING	8	N	AMS 4945							
CORRECT THICKNESS	(Y)	N								
PHOTO REQUIRED	Ÿ	(N)								
CORRECT REF # TO LINK CERT	Y	Ň	47. 9413631							
ORRECT MATERIAL IDENTFICATION	_	N								
CORRECT M# ON THE MATERIAL	Y	N								
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	M								
DOES THIS REQUIRE AN EXTRUSION REPORT	Υ	B								
CUT SAMPLE PIECE					A HARDNE	SS CHECK.				
	-		RD RESULTS B		DUDA	5115.5	T			
YPE OF MATERIAL			HRC HR	В	DUR A	DUR D	WEBSTER			
IZE OF TEST SAMPLE							-			
ARDNESS / DUROMETER READIN	JG.						-			
THE TENEDO TO BOTTOMETER READII		-4	located in the Quali							

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

ENGINEERING SIGNOFF (if required)

DATE:

SIGNED OFF BY:

QC 18 INSPECTION

INSPECTED BY:





5 A M CASTLE CO н 3050 SO HYDRAULIC WICHITA KS 67216 1 P US Ŧ

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A M CASTLE

1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

A M CAS	TLE	1106288	334 4075		INCLI	JSION Ser	ial:20180222-0110628834 Pg 1of3
CUSTOR 450879	MER PUR	CHASE OR	DER NO. & ITE	М	Conste 230353	illum ORDER NO.	CERTIFICATION "Constellium Rolled Products, hereby certifie metal shipped under this order has bee
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.50000 in 38.10 mm	WIDTI 48.500 1,232	000 in	LENGTH 144.50000 in 3,670 mm	inspected and found in conformance with requirements of the applicable specification indicated herein. Any warranty is limited to shown on Constellium Rolled Products' star
	RDERED LATE, SAV NISH	NED					General Terms and Conditions of Sales. T reports are on file, subject to exemination Constellium Rolled Products Ravenswood,
	VIER SPEC 1-A-250/12	CIFICATION					859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA
PART N 750412	UMBER		B/L NUN 95243	IBER		SHIPPED /2018	1 0
WT. SHI 8440.000			O. OF PIECES	GOVT.	CONTR	ACT NO.	Mare Umbay
							Dave Dunbarger - Laboratory Mana

ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:

ASTM B594 REV 13 2013 100% SONIC W/ 0.125"DEADZONE Class A

AMS 4045K AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE

**ASTM B209-14** 

BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE CSTI006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

### **Load Details**

Package	Package Net Lbs		Lot	Piece	Serial	Parent Lot
1001715431	1,055.000	478.540	9410098	01		
1001715431	1,055.000	478.540	9410098	02		
1001715431	1,055.000	478.540	9410098	03		
1001715431	1,055.000	478.540	9410098	04		
1001715432	1,055.000	478.540	9410097	01		
1001715432	1,055.000	478.540	9410097	02		
1001715432	1,055.000	478.540	9410097	03		
1001715432	1,055.000	478.540	9410097	04		

Lot: 9410098 (See test results below)

Tensile - Room Temperature (US)

		Ultimate	(KSI)	Yield (K	(SI)	Elongati	on (%)	Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	80.4	80.9	69.9	71.4	12.5	13.0	







A M CASTLE CO S H 3050 SO HYDRAULIC -WICHITA KS 67216 US T

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1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

A M CASTLE

A M CASTLE 110628834 4075 INCLUSION Serial: 20180222-0110628834 CUSTOMER PURCHASE ORDER NO. & ITEM Constellium ORDER NO. 450879 230353 WIDTH ALLOY CLAD TEMPER GAUGE LENGTH 7075 T651 1.50000 in 48.50000 in 144.50000 in 38.10 mm 1.232 mm 3.670 mm ITEM ORDERED

SPEC PLATE, SAWED MILL FINISH

CUSTOMER-SPECIFICATION AMS QQ-A-250/12A

PART NUMBER 750412

0

B/L NUMBER 95243

DATE SHIPPED 02/22/2018

WT. SHIPPED 8440.000 LB

NO. OF PIECES 0000008

GOVT. CONTRACT NO.

CERTIFICATION

Pg 2of3

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road

> P.O. BOX 68 RAVENSWOOD, WV 26164 USA

Dave Dunbarger - Laboratory Manager

Tensile - Room Temperature (SI)

		Ultimate	(N/MM2)	Yield (N	I/MM2)	Elongation	(%)	Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	554	558	482	492	12.5	13.0	

Chemistry (Actual)

SI FE CU MN MG CR ZN TI ZR 0.06 0.15 1.45 Core 0.06 2.58 0.19 5.59 0.03 0.01

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

Lot: (9410097) (See test results below)

Tensile - Room Temperature (US)

		Ultimate (KSI)		Yield (KSI)		Elongation	(%)	Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	80.1	80.3	69.1	70.5	12.0	12.5	







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A M CASTLE

1420 KENSINGTON ROAD, SUITE 220 OAK BROOK IL 60523 US

A M CAS	TLE	1106288	34 4075		INCLU	ISION Seri	al:20180222-0110628834 Pg 3of3
CUSTO! 450879	VIER PURC	CHASE ORI	DER NO. & ITE	M	Conste 230353	Illum ORDER NO.	"Constellium Rolled Products, hereby certifies that metal shipped under this order has been
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.50000 in 38.10 mm	WIDTH 48.500 1,232 r	00 in	LENGTH 144.50000 in 3,670 mm	inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard
	RDERED LATE, SAV	VED		•			General Terms and Conditions of Salas. Test reports are on file, subject to examination." Constellium Rolled Products Revenswood, LLC 859 Century Road
	MER SPEC 1-A-250/12	IFICATION A	e e				P.O. BOX 68 RAVENSWOOD, WV 26164 USA
PART N 750412	UMBER		B/L NUM 95243	BER	DATE 02/22	SHIPPED /2018	1 11
WT. SHI 8440.000			O. OF PIECES	GOVT.	CONTRA	ACT NO.	Dave Dunbarger - Laboratory Manager

Tensile - Room	Temperature	(SI)
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		Ultimate	(N/MM2)	Yield	(N/MM2)	Elongation	(%)	Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	552	554	476	486	12.0	12.5	

Chemistry (Actual)

SI FE CU MN MG CR ZN TI ZR Core 0.06 0.15 1.45 0.06 2.58 0.19 5.59 0.03 0.01

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

QUALITY TEXTS: AMC CA-15403A R 7

THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CHEMISTRY BY OES: ARKSPARK

CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT
WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399
WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557

DUNS Number: 090570149; CAGE Code: 1YWL9

Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.

"END OF CERTIFICATION"



REV. B SHEET 1 OF 17.05.05 10.11.08 COPYRIGHT © 2819 BY DART AEROSPACE LTD

"WE INTRODUCE ANY APPOSED AND AREA HOUSE TO CAPTURE TO THE TOTAL OF THE STATISTICS OF THE STATISTI DATE DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA
NACELLA CD B ADD: REF TO "PLATE" T651" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-149) DESCRIPTION RF 17.05.05 NEW ISSUE APPROVED DE APPR. DATE 17 DRAWN MFG. APPR. DESIGN REV. **APPROVED** SPECIFICATION CONTROL DRAWING MELEASED 2017 JUN 19 47 ECM 17-574 WHERE ", TTT" = THICKNESS (IN INCHES)
AND "W, WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE) EG. 0.063" THICK SHEET = M7075T6S.063 EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500 PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE PURCHASE MATERIAL 7075, 1676 ALUMINUM SHEET OR PLATE 00-A-250/12 OR AMS-00-A-250/12 OR AMS 4045 OR ASTM B209 QQ-A-250/13 OR AMS-QQ-A-250/13 OR AMS 4048 / 4049 OR ASTM B209 TIT BY 4FT BY 10FT FOR SHEET M7075T6S TTT X W.WWW THK WIDTH B PREFERRED SIZE: SPECIFICATION: SPECIFICATION: B PART NUMBER: OR 1 1 8 0 U

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### MATERIAL RECEIPT INSPECTION FORM

MATERIAL: <u>M7075</u> DATE: <u>18/08/</u>			00x1.500		Р	O / BATCH	NO.: <u>PO 04</u> 0	0612/5/02373	
MATERIAL CERT REC'D: 84.24  QUANTITY RECEIVED: 84.24  QUANTITY INSPECTED: 14.25				THICKNESS ORDERED: 1.500"  THICKNESS RECEIVED: 1.500"  SHEET SIZE ORDERED: SHEET SIZE RECEIVED:					
DESCRIPTION	(Ch	CR leck (N)			(	COMMENT	'S		
SURFACE DAMAGE	Y	IN		· · · · · · · · · · · · · · · · · · ·					
CORRECT FINISH	V	N							
CORROSION	Y	N							
CORRECT GRAIN DIRECTION	Y	N							
CORRECT MATERIAL PER M-DRAWING	X	N	Ams	QQ-A-25	0/12				
CORRECT THICKNESS	Y	N							
PHOTO REQUIRED	Y	(N)							
CORRECT REF # TO LINK CERT	Y	N	Wt. 94	10047					
CORRECT MATERIAL IDENTFICATION	- DV	N							
CORRECT M# ON THE MATERIAL	(8)	N							
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Υ	(N)		,					
DOES THIS REQUIRE AN EXTRUSION REPORT	Υ	(2)							
CUT SAMPLE PIECE						HARDNES	SS CHECK.		
	F			ULTS BELC					
			HRC	HRB		DUR A	DUR D	WEBSTER	
TYPE OF MATERIAL									
SIZE OF TEST SAMPLE									
HARDNESS / DUROMETER READII	_								
	<u>te</u>	esters	located in	the Quality O	<u>ttice</u>				

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

QC 18 INSPECTION ENGINEERING SIGNOFF (if required)